Chapter 1 Green Plants-Producers of Food

A. **1.** (iii) **2.** (i) **3.** (iii) **4.** (i) **5.** (iii)

B. **1.** Green plants **2.** stomata **3.** stem, branches **4.** crotons **5.** Plants

C. **1.** F **2.** T **3.** F **4.** F **5.** F

D. **1.** (iv) **2.** (iii) **3.** (i) **4.** (v) **5.** (ii)

E. **1.** A leaf has two main regions, a blade *(lamina)* and a stalk *(petiole)*. The leaf connects to the stem, while the blade is a thin flat part of the leaf. Each leaf has one main vein called mid-rib and many side veins. The mid-rib and side veins help in bringing water and minerals from the stem and carrying out the prepared food to other parts of the plant. The underside of the leaf has many tiny openings called stomata. The stomata help in the exchange of gases. **2.** The process by which plants prepare their food using water and carbon dioxide in the presence of sunlight and chlorophyll is called photosynthesis. **3.** The stomata help in the exchange of gases. **4.** Non-green plants like mushroom and fungi, get their food from the dead and decaying matter. Non-green plants like dodder take their food from other green plants. **5.** Choose a green leaf from a healthy plant. Apply vaseline to block stomata on both sides of the leaf. Keep the plant for 2-3 days as it is. Now pluck the leaf and test it for starch. You will find that there is no starch present in the leaf. This is because vaseline blocks the stomata. So the leaf cannot get carbon dioxide for the process of photosynthesis. **6.** Plants, animals and human beings are dependent on each other for their survival. Plants give food, shelter and oxygen to human beings and animals. In turn, human beings and animals give out carbon dioxide which is used by plants to carry out photosynthesis.

F. During monsoons, plants are able to gather sunlight to perform photosynthesis. The radiation of Sun can penetrate the clouds. Only the light intensity is lesser in rainy days and as a result the amount of photosynthesis also reduces but it does not stop completely.

Chapter 2 Adaptation in Plants

Knowledge Quest (Page-14)

1. Pine, Deodar **2.** Peepal, Mango **3.** Teak, Coconut **4.** Cactus, Date Palm, **5.** Rhizophora, Avicennia

A. **1.** (ii) **2.** (i) **3.** (iii) **4.** (ii) **5.** (ii)

B. **1.** hilly **2.** Teak, rubber **3.** marshy **4.** water **5.** aquatic

C. **1.** F **2.** T **3.** T **4.** F **5.** F

D. **1.** (iv) **2.** (v) **3.** (i) **4.** (ii) **5.** (iii)

E. **1.** (i) Teak (ii) Rubber **2.** (i) Cactus (ii) Date palm **3.** (i) Duckweed (ii) Water lettuce **4.** (i) Tape grass (ii) Hydrilla **5.** (i) Rice plant (ii) Wheat plant

F. **1.** The place where a living thing lives or grows naturally is called its habitat. **2.** The plants that grow on land are called terrestrial plants. Plants that grow in water are called aquatic plants. **3.** The plants that grow on hilly areas are tall and straight that helps them in catching the sunlight. These trees are generally cone shaped and have sloping branches. It helps snow to slide off easily. **4.** In marshy areas, the soil is sticky and clayey. The clayey soil holds lots of water with less air. The roots of the plants growing in such areas do not get sufficient air. Thus, the roots of these plants grow above the ground. These roots are called breathing roots. **5.** The plants that grow in deserts are called xerophytes. *For example :* Cactus, Date palm and Keekar. **6.** Submerged plants grow under water. They have narrow leaves with no pores. They breathe through their body surface and help to keep the water clean. These plants are fixed to the soil at the bottom of the pond with the help of their roots. **7.** The grass family plants grow in plenty places that are not too dry or too wet. They do not need as much water as the trees.

G. In India, the season of autumn comes in the months of September and October. In these months, deciduous trees shed their leaves.

Chapter 3 Reproduction in Animals

Knowledge Quest (Page-22)

1. mammals **2.** shells **3.** young one **4.** warm

A. **1.** (ii) **2.** (iii) **3.** (ii) **4.** (ii) **5.** (iii)

B. **1.** spawns **2.** eggs **3.** Fish **4.** caterpillar **5.** reptiles

C. **1.** T **2.** F **3.** F **4.** T **5.** T

D. **1.** (iii) **2.** (v) **3.** (iv) **4.** (vi) **5.** (ii) **6.** (i)

E. **1.** Anteater, Duckbilled platypus **2.** Sparrow, Pigeon **3.** Cockroach, Grasshopper **4.** Crocodile, Snake

F. **1.** The process by which living beings produce offsprings of their own kind is called reproduction. Life would not have existed on the Earth if living beings did not reproduce. **2. Structure of an egg:** The outermost part of an egg is the egg shell. It protects the young one developing inside. The middle part consists of the yolk. The yolk provides nutrition to the developing embryo. Inside the yolk lies an embryo which later develops into a chick. A white jelly-like substance called the albumen is present outside the yolk. It protects the yolk and the embryo. **3.** Birds reproduce by laying eggs. They lay eggs in nests and sit on them to keep them warm. After some time, the eggs hatch and the baby bird comes out of it. But within the egg, the embryo goes

through different stages of development before it is ready to hatch out. **4.** The process of development that a frog goes through in its life cycle is called metamorphosis. **5.** When the eggs of a cockroach hatch, the baby cockroaches, called nymph, come out. They look like adult cockroaches. They shed their skin several times. This process is called moulting. **6.** The young one that hatches from the egg is very different from the adult. It looks more like worm, it is called a larva. The larva of a butterfly is called caterpillar. The larva feeds and grows rapidly. After some time, it stops eating and makes a covering for itself. It is now called pupa. In a few weeks, the pupa bursts open and an adult butterfly comes out. **7.** Animals that crawl on the ground are called reptiles. Snakes, turtles, lizards and crocodiles are reptiles.

G. A bird called the common cuckoo uses a sneaky strategy to raise its babies. First, a female cuckoo finds a nest built by a bird of a different species. *For example,* it might be a great reed warbler. Then, she sneaks into the warbler nest, lays an egg and flies away. The warbler often accept the new egg. Indeed, they take care of it along with their own eggs. The cuckoo chick hatches before then warbler chicks. And it wants all the food from the warbler parents for itself. So the young cuckoo pushes the warbler eggs onto its back, one by one. It braces its feet on the sides of the nest and rolls each egg over the edge.

Chapter 4 Adaptations in Animals

Knowledge Quest (Page-29)

1. insects **2.** arboreal animals **3.** amphibians

A. **1.** (i) **2.** (iii) **3.** (ii) **4.** (i) **5.** (ii)

B. **1.** Camel **2.** gills **3.** aerial **4.** Amphibians **5.** Parasites

C. **1.** T **2.** F **3.** F **4.** T **5.** T

D. **1.** Sparrow, Pigeon **2.** Monkeys, Apes **3.** Crocodile, Frog **4.** Bear, Crow **5.** Hookworm, Roundworm

E. **1.** The process in which an animal changes itself to suit its surroundings is called adaptation. **2.** Camels store fat in their humps which gives them energy when required. They have long eye lashes that protect their eyes during sandstorms in deserts. A camel can live without water for many days. **3.** There are some features of aerial animals that help them to fly : (i) Their forelimbs are modified as wings to help them to fly. (ii) They have light bodies covered with feathers. (iii) Their bones are hollow and light. (iv) They have boat-shaped body which helps them in flying. **4.** Animals that can live both on land and in water are called amphibians. Frog, crocodile, alligator, tortoise, etc are some of the amphibians. **5.** Polar bears have fur on their bodies which protects them from cold. **6.** Animals like frogs, lizards, etc become inactive and sleep for several months in cold climate to protect themselves

from cold. This is called hibernation. **7.** Parasites are the animals that live within or on the bodies of other animals. Bugs, mosquitoes and leeches are some of the parasites.

F. Our bipedalism (ability to walk on two feet), opposable thumbs (which can touch the fingers of the same hand), and complex brain (which controls everything we do) are three adaptations (special features that help us survive) that have allowed us to live in so many different climates and habitats.

Chapter 5 Food and Digestion

A. **1.** (ii) **2.** (iii) **3.** (i) **4.** (iii) **5.** (ii)

B. **1.** diseases **2.** Fats **3.** proteins **4.** mouth **5.** anus

C. **1.** F **2.** F **3.** T **4.** T **5.** T

D. **1.** (iii) **2.** (ii) **3.** (v) **4.** (i) **5.** (iv)

E. **1.** The process by which living beings obtain and utilize food for their growth and development is called nutrition. **2.** Carbohydrates provide us energy to do work. Proteins are the nutrients that help us to grow. They also help in the repair of worn out cells. **3.** Roughage helps in the proper digestion of food. It is not digested with the food but helps in its digestion and removal of wastes from the body. **4.** Water helps the body to work properly. It helps to maintain our body temperature. **5.** A diet that contains all the nutrients, i.e., carbohydrates, fats, proteins, vitamins, minerals, etc in adequate proportion is known as balanced diet. **6.** The method of keeping the food fresh for longer time is known as food preservation. Some of the methods of food preservation are : (i) Pickling in salt or acid (ii) Canning in sealed jars or tins *(jams, prepared foods)* (iii) Freezing (*nuts, fruits, meat, etc*) (iv) Sugaring *(jams and jellies)* (v) Pasteurisation (*milk, beer, etc*) (vi) Drying (*grains, nuts, etc*) **7.** Digestion is a process by which complex food substances change into simple soluble forms in the presence of enzymes. **8.** Digestion of food starts in our mouth. As we chew it, food gets mixed with saliva which makes the food moist. Through the food pipe, the food is passed to the stomach. The stomach muscles help to churn the food and mix it with the digestive juices. The food passes from the stomach into a long narrow tube called the small intestine. In the small intestine, more digestive juices make the food even softer. Digested food passes through the walls into the blood vessels. The undigested food that remains, is stored in the large intestine until it is thrown out of anus.

F. Mother's milk provides all the energy and nutrients that the infant needs for the first months of life.

Chapter 6 Personal Hygiene

A. **1.** (ii) **2.** (iii) **3.** (i) **4.** (ii)

B. **1.** hygiene **2.** trimmed, clean **3.** vitamin A **4.** loud **5.** towel

C. **1.** T **2.** F **3.** T **4.** T

D. **1.** Hygiene refers to the care one must take to keep oneself clean and healthy. Personal hygiene is essential to protect oneself from diseases. **2.** Some ways that we must follow to stay strong and healthy are: (i) Take bath every day. (ii) Wear neat and clean clothes. (iii) Wash our hands before and after every meal. (iv) Keep our nails trimmed and clean. (v) Drink clean water. (vi) Keep our house and its surroundings clean. **3.** We should wash our hands before and after every meal and after using the toilet. It is very important to trim our nails regularly. We should wash our feet after removing shoes and socks and after returning from playground. **4.** The food rich in vitamin A is good for eyes, therefore, we should eat food rich in vitamin A, like carrots, green leafy vegetables, etc. **5.** We should clean our ears with a soft towel. Never clean ears with sharp objects like matchsticks and pens as it can damage the ear drum and lead to deafness. We should avoid listening to very loud music. **6.** We must clean the tongue with a tongue cleaner every day. The tongue cleaner removes the bacteria which grow in the mouth. We should also rinse the mouth after every meal to remove food left on the tongue.

E. An owl can see well at night but not during the day.

Chapter 7 Teeth and Microbes

Knowledge Quest (Page-45)

1. Enamel **2.** 4 **3.** 20 **4.** Incisors

A. **1.** (ii) **2.** (ii) **3.** (i) **4.** (iii) **5.** (ii)

B. **1.** Neck **2.** pulp **3.** Canines **4.** floss **5.** Bacteria

C. **1.** F **2.** F **3.** T **4.** T **5.** T

D. **1.** Typhoid, Tuberculosis **2.** Flu, Smallpox **3.** Malaria, Dysentery **4.** Ringworm, Fungal eye infections

E. **1.** Teeth help us to chew the food, thus breaking it into very small pieces. They also give shape to our face and help us to speak clearly. **2.** A tooth has three parts : crown, neck and the root. **Crown :** It is the visible part of the tooth above the gums. **Root :** It is the part of the tooth under the gums and inside the alveolar bone that keeps the tooth in place. **Neck :** It is the area between the tooth crown and the root. The upper layer of a tooth is called enamel. The next layer is called dentine. **3.** There are four kinds of teeth in a permanent set. They are : **Incisors :** These are the four front teeth in each jaw. These are used to bite the food. **Canines :** Canines are pointed teeth. These

are present right next to the incisors in both the jaws. These are used for tearing the food. **Premolars :** These are the broad teeth next to the canines. They act like nut crackers. **Molars :** Molars are broader than the premolars and have broad surfaces. They are used for grinding and chewing the food. **4.** Following are some ways to protect our teeth from decaying : (i) We should brush our teeth properly and regularly. (ii) We should drink plenty of milk. (iii) Use floss to clean the gaps between the teeth. Do not use any other pointed object. (iv) We should avoid eating too many chocolates and sweets. (v) We should wash our mouth after every meal. (vi) We should visit our dentist regularly for check-ups. **5.** Microbes are very small living organisms that cannot be seen with the naked eyes. They can only be seen under a microscope. Disease causing microbes are called germs. The four main kinds of microbes are: Bacteria, Viruses, Protozoa, Fungi **6.** Some microbes are useful to us : (i) Bacteria called lacto bacillus change milk into curd. (ii) Fungi called yeast help to make bread fluffy. (iii) Some bacteria in the soil help in the decay of dead plants and animals.

F. Morals are also called the wisdom teeth because they come through at a more mature age.

Chapter 8 Clothing

Knowledge Quest (Page-52)

1. man-made **2.** waterproof **3.** light-coloured **4.** synthetic

A. **1.** (i) **2.** (iii) **3.** (ii) **4.** (ii) **5.** (i)

B. **1.** Clothes **2.** woollen **3.** natural **4.** Synthetic **5.** white

C. **1.** T **2.** F **3.** T **4.** T **5.** F

D. **1.** Cotton **2.** Rayon **3.** Woollen **4.** Jute **5.** Polyester

E. **1.** Clothes protect us from the heat of the sun, cold, rain, dust and insect bites. They give us comfort and make us look smart. **2.** In summer, we wear cotton clothes which absorb sweat and keep us cool. They allow body heat to escape and thus make us feel cool. **3.** The fibres obtained from nature are called natural fibres. Natural fibres are obtained from plants and animals. Plants give us cotton, linen, jute, etc while animals provide us wool, silk, fur, etc. **4.** Synthetic fibres are man-made fibres and do not occur in nature. Synthetic fibres include nylon, rayon, polyester, etc. These are useful due to their special characteristics. They are waterproof, stretchable, wrinkle-free, etc. **5.** Natural fibres are obtained from plants and animals while synthetic fibres are man-made fibres and do not occur in nature. **6.** Many fibres when twisted together make yarns. These yarns make fabrics. One or more fabrics are then stitched together to make different clothes. **7.** People wear different clothes according to their jobs or professions. Lawyers

wear black coats, doctors and nurses wear white coats and students wear their school uniforms. **8.** We should take proper care of our clothes to keep them in good condition for a long time. (i) Clothes should be washed properly with a good quality detergent or soap. (ii) Silk and woollen clothes are very delicate. They should either be dry-cleaned or washed with a mild detergent. (iii) Coloured clothes should be dried in shade and white clothes in the Sun. (iv) Clothes must be ironed properly before use.

F. We wear light or white coloured clothes in summer because light colour reflect sunlight as well as heat so our body is free from heated up.

Chapter 9 Safety and First aid

Knowledge Quest (Page-58)

Do it yourself.

A. **1.** (ii) **2.** (i) **3.** (iii) **4.** (iii) **5.** (ii)

B. **1.** carelessness **2.** synthetic **3.** medicine **4.** left **5.** First aid

C. **1.** T **2.** F **3.** F **4.** T **5.** F

D. **1.** (iv) **2.** (iii) **3.** (v) **4.** (i) **5.** (ii)

E. **1.** Clean the cut with an antiseptic solution. Put antiseptic cream on it and cover with an adhesive bandage. **2.** Wash the burnt area with cold water and then apply an antiseptic cream on the burnt area. Do not bandage it. **3.** Wash the affected area with lime water and apply a paste of baking soda with an antiseptic cream on the affected area. **4.** Make the person lie down with his head lower than the body to increase the supply of blood to the brain.

F. **1.** We can prevent accidents if we are careful. **2. Safety in the kitchen:** (i) Do not wear synthetic clothes while working in the kitchen because they catch fire very easily. (ii) Handle sharp objects like knives carefully. (iii) Use oven gloves or tongs to handle hot objects. **3. Safety in the bathroom :** (i) Do not touch electric switches and appliances with wet hands. (ii) Do not leave the soap on the floor. Keep it in the soap dish. (iii) Do not spill shampoos or liquid detergent on the floor. The floor gets slippery and anyone can fall. **4. Safety on the Road :** (i) Always walk on the footpath or pavement. (ii) Cross the road only at zebra crossing or use the subway or the footbridge. (iii) Do not play on the road. (iv) Always walk, drive on the left side of the road. (v) Follow the traffic lights and signals. **5.** The immediate help given to an injured or sick person before proper medical aid arrives is called first aid.

G. A lifeguard is a person who works at a beach or swimming pool and rescues people when they are in danger of drowning.

Chapter 10 Matter and Its Properties

Knowledge Quest (Page-64)

1. Solids have a fixed size and shape.

2. Solids have a fixed size and shape but liquids do not have a definite shape.

3. Gas has no fixed shape and size. It fills all the available space because the molecules in gas are very loosely packed.

A. **1.** (ii) **2.** (iii) **3.** (ii) **4.** (i) **5.** (ii)

B. **1.** matter **2.** Solids **3.** gases **4.** Liquids **5.** chemical

C. **1.** F **2.** T **3.** T **4.** F **5.** T

D. **1.** (iv) **2.** (iii) **3.** (v) **4.** (i) **5.** (ii)

E. **1.** Anything that has weight and occupies space is called matter. Everything in this universe is matter. Matter exists in three states : solid, liquid and gas. **2.** There are vacant space between the molecules which we cannot see. The space between the molecules is called intermolecular space. **3.** Solids have a fixed shape because the molecules in solids are tightly packed. **4. Solids :** (i) Definite shape and volume (ii) Cannot flow (iii) Can be stored anywhere. **Liquids :** (i) No definite shape, but have definite volume, take the shape of the container (ii) Can flow from higher level to lower level (iii) Cannot be stored without a vessel. **Gases :** (i) No definite shape and volume, take the shape of the container. (ii) Flow in all directions (iii) Can be stored in a closed vessel. **5. Physical Changes:** When a substance undergoes a change without forming new substance, it is called a physical change. For example, melting of candle, lighting of an electric bulb, etc. **Chemical Changes :** When a substance undergoes a change forming a new substance, it is called a chemical change. For example, formation of curd from milk, burning of wood to give ash. **6.** When a gas is cooled down or its temperature is reduced, it becomes a liquid. This process is called condensation. **7.** When a liquid is heated or its temperature is increased, it changes into gas. This process is called evaporation.

F. Water behaves differently unlike most other substances, in the sense that it becomes denser as it melts. So, it takes less volume for the same mass upto 4°C, after which the density of water increases with increase in temperature.

Chapter 11 Force, Work and Energy

Knowledge Quest (Page-70)

1. Friction **2.** Muscular force **3.** Friction **4.** Gravity

A. **1.** (ii) **2.** (i) **3.** (iii) **4.** (i) **5.** (iii)

B. **1.** force **2.** invisible **3.** Lever **4.** inclined **5.** energy

C. **1.** (iii) **2.** (iv) **3.** (v) **4.** (i) **5.** (ii)

D. **1.** F **2.** T **3.** F **4.** F **5.** T

E. **1.** Push or pull is called force. Force is an external agent which causes a body to start moving or to stop when it is in motion. **2.** There are different forms of forces. They are : **Gravity :** The force by which the Earth pulls objects towards itself is known as gravity. **Friction:** The force which slows down or stops a moving body is called friction. **Muscular Force :** The force exerted by our muscles is known as muscular force. **Mechanical Force :** It is the force exerted by machines. **3.** A work is said to be done if the force applied on an object moves the object in the direction of force. No work is said to be done if the object does not move from its original position after applying force on it. The work done by an object can be calculated from the following formula : Work done = Force × Distance covered by the object. **4.** We use a variety of simple machines in our daily lives. These are –lever, pulley, wheel and axle, inclined plane, wedge, screw, etc. **5.** Energy is defined as the capacity or ability to do work. When a work is done, energy is used. Everything that works or moves needs some kind of energy. **6.** The energy obtained from the sun is called solar energy. Sun is the ultimate source of energy on our planet Earth. Green plants trap the energy from the sun to make their food. We use this energy in solar cooker, solar heater, etc. **7.** Windmill is used to grind wheat, draw underground water, generate electricity, etc. **8.** Flowing or falling water is used to generate electricity in dams. It is called hydroelectricity.

F. **The main cause of air pollution are :** (i) Smoke released by factories and vehicles. (ii) Burning of coal, kerosene oil and wood for household fire. (iii) Use of pesticides and fertilizers in farms. (iv) Bursting of crackers emits poisonous gases in the air. **We should do the following to make the air cleaner :** (i) Walk or ride a bicycle for short distances. (ii) Try to use public transport instead of using our own vehicle. (iii) Plant more trees as they help us to keep the air clean by absorbing carbon dioxide and releasing oxygen. (iv) Do not burst crackers on any festival or on any celebrations. (v) Instead of using household fuels like kerosene, etc., we should use cleaner fuels like cooking gas.

Chapter 12 Soil Erosion and Conservation

Knowledge Quest (Page-77)

1. This is the most fertile layer of soil.

2. The particles of subsoil are bigger in size.

3. It contains stones and rocks.

A. **1.** (iii) **2.** (ii) **3.** (iii) **4.** (i) **5.** (i)

B. **1.** topsoil **2.** Clay **3.** Soil erosion **4.** Rainwater **5.** Subsoil

C. **1.** T **2.** F **3.** F **4.** T **5.** T

D. **1.** Soil is formed by the breakdown of rocks into small pieces due to the action of air and water. It takes millions of years for the rocks to

change into pebbles, gravel and sand. These together with the remains of dead plants and animals make the soil. The topmost layer of the Earth's crust forms the soil. **2.** Soil is made of different layers : **Topsoil :** The uppermost layer of the soil is called topsoil. It is dark in colour due to the presence of humus. **Subsoil :** It lies below the topsoil. The particles of subsoil are bigger in size than the topsoil. It is lighter in colour. It is not suitable for the growth of plants. **Bedrock :** Below the subsoil is the bedrock where the soil particles are still bigger. It mostly contains stones and rocks. **3.** Types of Soil : **Gravel :** Gravel consists of tiny stones and does not hold water well. **Sand :** The particles of sand are big in size and have a lot of space between them. It cannot hold much water. It is mostly found in deserts and on the seashore. **Clay :** Clay has small and tightly packed particles. It can hold a lot of water. It is found in ponds and river beds. **4.** The carrying away of the top fertile soil by agents like wind and water is called soil erosion. Soil erosion makes the land dry and arid. There are various factors responsible for soil erosion. These are water, wind and human activities. It causes more erosion when : (i) We cut down trees (deforestation) (ii) It rains heavily (iii) Strong winds blow (iv) Faulty methods of growing of crops are practised. **5.** The protection of soil from erosion is called soil conservation.

E. Roots take up air from the air spaces present in soil. If there is too much water then the roots will not be able to take up air because the air spaces will get filled with water. This might cause the roots to die.

Chapter 13 Natural Resources

A. **1.** (ii) **2.** (iii) **3.** (iii) **4.** (i) **5.** (ii)

B. **1.** sunlight **2.** electricity **3.** Minerals **4.** survival **5.** electrical

C. **1.** F **2.** T **3.** F **4.** F **5.** T

D. **1.** (ii) **2.** (iv) **3.** (i) **4.** (iii)

E. **1.** Sunlight, Air, Water **2.** Coal, Petroleum, Minerals

F. **1. Renewable Resources :** The resources which either never get exhausted or are replaced naturally within a specific period are called renewable resources. **Non-renewable Resources :** The resources that cannot be replaced within a reasonable period of time once used up are called non-renewable sources. **2.** Sun is the main source of energy on the Earth. It gives heat and light for the survival of living things. Plants use sunlight to make food. The sun's rays are absorbed by the huge solar panels to get solar energy. This energy is used for cooking, heating water, etc. **3.** The energy of falling water is used to generate electricity. Electricity generated by water is called hydroelectricity. **4.** Petroleum is formed by the remains of plants and animals that got buried under the ground millions of years ago. **5.** Minerals are substances found naturally in the Earth. They make up the rocks that

cover the Earth. Minerals from which metals can be obtained are called ores. Metals are used in making utensils, pipes, tools, railway tracks, etc. Some minerals are used in industry to make various products. **6.** (i) Forests can be conserved by the following measures : (a) Planting more and more trees. (b) Use newspapers and cardboards for recycling. (ii) Soil can be conserved by the following measures : (a) Planting more and more trees. (b) Prevention of cutting of trees. (iii) Water can be conserved by the following measures : (a) Get leaking taps and pipes repaired. (b) Turn-off running taps when not in use.

G. Energy should be conserved wherever it is possible. The best way to reduce energy consumption is to switch off lights and fans when they are not in use.

Chapter 14 Air, Water and Weather

A. **1.** (i) **2.** (iii) **3.** (i) **4.** (iii) **5.** (i)

B. **1.** Weather **2.** Revolution **3.** high **4.** lighter **5.** frost

C. **1.** F **2.** T **3.** F **4.** T **5.** T

D. **1.** (iii) **2.** (iv) **3.** (i) **4.** (v) **5.** (ii)

E. **1.** Revolution is the movement of Earth around the Sun. While revolving, the part of the Earth nearer to the Sun has warmer and longer days, so it is summer in this part. The part of the Earth away from the Sun has colder and shorter days and there is winter in this part. Thus, revolution causes change in seasons. **2. Sea Breeze:** During the day when land gets heated up due to the heat of the Sun, the air above it also gets warm. The hot air rises up from the land while the cool air from the sea blows in to take its place. This is called sea breeze. **Land Breeze :** At night, the land cools faster than the sea. The hot air rises from the sea and cool air from the land blows towards the sea. This is called land breeze. **3.** The heat of the Sun causes evaporation of water. In this way, water becomes invisible water vapour. This process of change of water into water vapour is called evaporation. **4.** Evaporation may be slow or fast depending upon the following factors : **Wind :** Evaporation is faster when it is windy. Blowing winds help in evaporation. **Temperature :** Evaporation is faster if the temperature is high. **Dry Air :** Evaporation takes place faster when the air is dry. **Surface Area :** Evaporation of water will be fast if the exposed surface area is large. **5.** The change of water vapour into water on cooling is known as condensation. Rain, fog, dew, frost, etc are formed by the process of condensation. **6.** Condensation gives rise to conditions. They are : **Rain :** When the clouds rise higher up, they are cooled down. So they fall down in the form of rain. **Fog :** In winter season, water vapour condenses to form a cloud near ground level. This is called fog. **Dew :** After a cold night, dew can be seen on the

grass and on the leaves. **Frost :** The formation of ice on the glass blades or on cold objects is called the frost. **Sleet :** Sometimes, rain drops falling down to the ground pass through very cold layers of air. They get frozen into irregular pieces of ice. These falling crystals of ice are called the sleet.

F. Contaminated drinking water has been associated with major outbreaks of waterborne diseases such as cholera, typhoid, diarrhoea and vomiting. Chlorine Tablets is a widely used water disinfectant which kills most viruses and bacteria in water.

Chapter 15 The Earth and Its Neighbours

Knowledge Quest (Page-96)

1. 365 1/4 days **2.** Crust **3.** Constellations **3.** Pluto **4.** 8

A. **1.** (i) **2.** (ii) **3.** (ii) **4.** (iii) **5.** (i)

B. **1.** Sun **2.** Earth **3.** Core **4.** seasons **5.** artificial

C. **1.** F **2.** T **3.** T **4.** F **5.** T

D. **1.** (v) **2.** (iii) **3.** (i) **4.** (ii) **5.** (iv)

E. **1.** Rotation causes day and night on the Earth. The part of the Earth that receives sunlight has day while the other part has night. **2.** Revolution of the Earth and the tilted axis cause seasons. (i) When the North Pole is towards the Sun : It is summer in the northern hemisphere. At the North Pole there is sunlight for twenty- four hours. During this time, the South Pole is turned away from the Sun and has winter. There is no day light at the South Pole at all. (ii) When the North Pole is turned away from the Sun : It is winter in the Northern Hemisphere. The North Pole is in complete darkness. It is summer in the Southern Hemisphere. **3.** Stars are huge balls of gases which give out heat and light energy. But planets have no light and heat of their own. **4.** We see stars in groups in the sky. Certain groups of stars seem to form a recognizable pattern in the sky. These are called constellations. There are total 88 constellations. **5.** The object that revolves around a planet is called its satellite. For example, Moon is a natural satellite of the Earth. **6.** The satellites made by man are called artificial satellites. The first satellite launched by India in 1975 was Aryabhatta. **Uses of Artificial Satellites :** (i) These are used for weather forecasting. (ii) These are used for communication. (iii) These are used for transmission of television, radio, etc. (iv) These are also used to collect information about the heavenly bodies in space.

F. A rocket can keep flying forever in space, even when it runs out of fuel. In space, there is no air to slow things down by creating drag. This means that we're following Newton's first law. Once the rocket leaves Earth's atmosphere, the only force acting upon it is the force of thrust from its engines.